

Thursday, September 24, 2015 2:11:35 PM

137173

Page 1

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 9/28/15 **Start Qty:** 20.00 ***20***

Cust Item ID:

Required Date: 9/28/15 **Req'd Qty:** 20.00 ***20***

Customer:

Reference:

Approvals: **Process Plan:** MLJ **Date:** SEP 25 2015

Tooling:

Date:

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

SPC (Y/N):

Date: _____

Stop *NR2*

100		0.00			
100	BAND SAW				
Bandsaw					
	Memo	0.00	20	φ	Jfe 2015-10-06
Jeaspa Bandsaw	Cut blank: 2.00" x 1.00" x 2.550" long				
110		0.01			
110	HAAS CNC VERTICAL MACHINING #1				
HAAS 1					
	Memo	0.04	20	φ	SL15-10-7
HAAS CNC vertical machine #1	1- Machine as per Folio FA405 and Dwg D32782- Deburr and TumbleIdentify as D3278-1				
120		0.00			
120	QC2- Inspect parts off machine FAI/FAIB				
QC					
	Memo	0.00	20	φ	SL15-10-7
Quality Control					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mis-labeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐					

Work Order ID 137173

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137173

Page 2

Item ID: D3278-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Support
 Start Date: 9/28/15 Start Qty: 20.00 ***20*** Cust Item ID:
 Required Date: 9/28/15 Req'd Qty: 20.00 ***20*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC8- Inspect parts - second check	0.00							
130						20	0		DAS 14 9-89
QC	Memo	0.01							15/10/08
Quality Control									
140	Chemical Conversion Coat per QSI005 4.1	0.00							
140						20	0	15-10-8	
HandFinish	Memo	0.00							
Hand Finishing									
150	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
150						20	0	15-10-16	DAS 34 9-89
Powdercoat	Memo	0.00							
Powder Coating									
	START TIME: 8:15 OVEN TEMPERATURE:								
	FINISH TIME: 8:45								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Misidentified ☐	Past Due ☐																																																																

Picklist Print

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Work Order ID: 137173

137173

Parent Item: D3278-1

D3278-1

Parent Item Name: Support

Start Date: 9/28/15

Required Date: 9/28/15

Start Qty: 20.00

Required Qty: 20.00

Comments:

IPP: A04.04.19New issueKJ/JLM

IPP B 07.09.06 rev.c dwg EC verified by: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B1.000X02.00 0		Purchased	No			100	f	23.8920	0.2337	4.92			

M6061T6B1 000X02 000

6061-T6 Bar 1.00 x 2.00

Location

Loc Qty

Loc Code

MAT

23.892

M132546

12

M132582

11.892

4.92 JFL 2015 10-06

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :			
Misidentified	☐	Past Due	☐				

DART AEROSPACE LTD		Work Order: 137173
Description: Support		Part Number: D3278-1
Inspection Dwg: D3278	Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.098	+0.005/-0.000	0.098	✓		VERNO	SLVO
0.359	+/-0.005	0.359	✓			
0.609	+/-0.010	0.611	✓			
0.250	+/-0.010	0.250	✓			
1.480	+/-0.005	1.480	✓			
R0.125	+/-0.010	0.125	✓			
0.119	+0.005/-0.004	0.118	✓			
2.439	+/-0.010	2.439	✓			
1.980	+/-0.010	1.979	✓			
R0.13	+/-0.030	0.13	✓			
Ø0.257	+0.005/-0.000	0.258	✓			
R0.375	+/-0.010	0.375	✓			
0.875	+/-0.010	0.875	✓			
0.500	+/-0.010	0.500	✓			
R0.400	+/-0.010	0.400	✓			
R1.00	+/-0.030	1.00	✓			
1.720	+/-0.010	1.721	✓			
R0.125	+/-0.010	0.125	✓			
0.125	+/-0.010	0.125	✓			

Measured by: SL	Audited by: DAS 14	Prototype Approval:	N/A
Date: 15-10-7	Date: 15/10/08	Date:	N/A

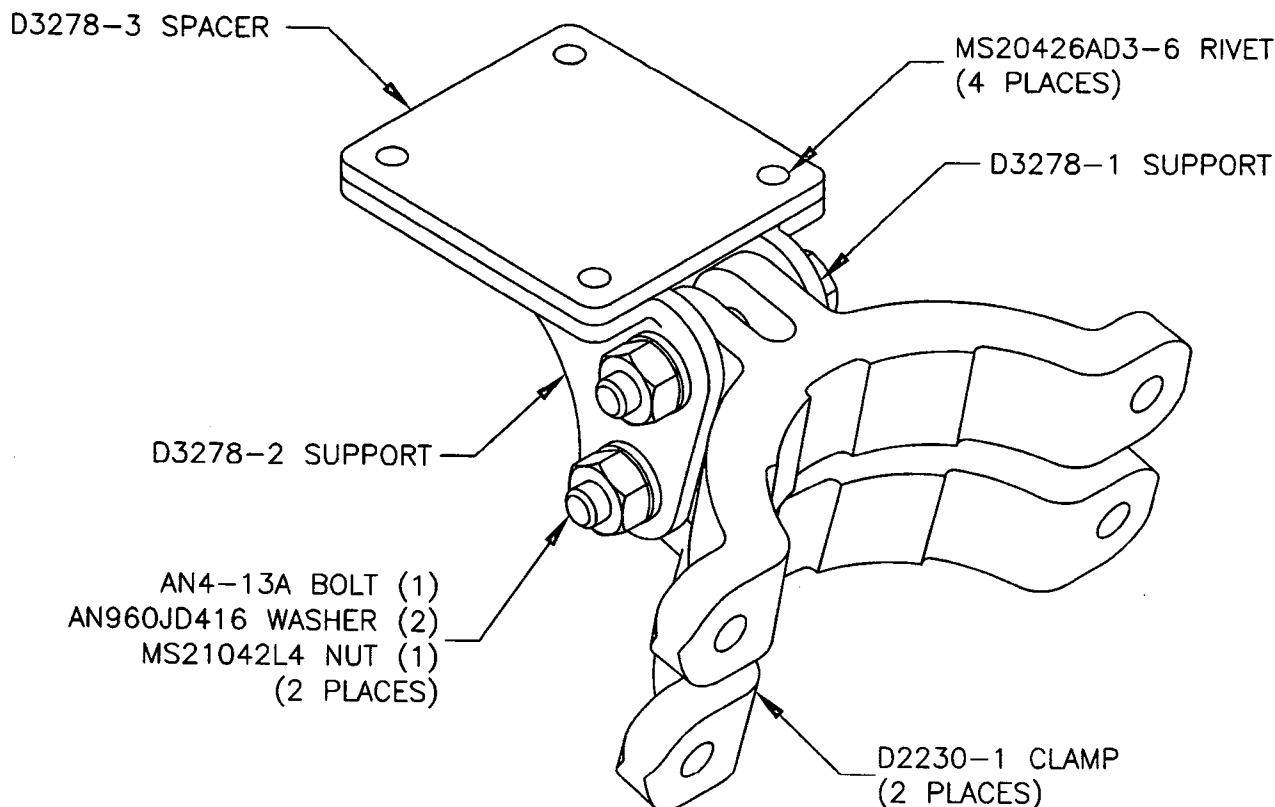
Rev	Date	Change	Revised by	Approved
A	04.04.19	New Issue P/O D3278-041	KJ/JLM	
B	05.06.08	0.359 was 0.365; 0.119 was 0.125	KJ/JLM	
C	07.09.26	Dimensions updated per Dwg Rev. C	KJ/EC	BE



DESIGN <i>97</i>	DRAWN BY <i>BC</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3278	REV. C SHEET 1 OF 3
DATE 07.07.24		TITLE SUPPORT ASSEMBLY	SCALE NTS
A	04.03.03	NEW ISSUE	
B	05.03.31	CHANGE DIM/TOL TO ENSURE FIT	
C	07.07.24	CHANGED RIVETS PER PAR #185	

RELEASED
07-08-06

D3278-041 SUPPORT ASSEMBLY



Qty	Part Number	Description
X	D3278-041	SUPPORT ASSEMBLY
2	D2230-1	CLAMP
1	D3278-1	SUPPORT
1	D3278-2	SUPPORT
1	D3278-3	SPACER
2	AN4-13A	BOLT
4	AN960JD416	WASHER
4	MS20426AD3-6	RIVET
2	MS21042L4	NUT

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WITHOUT NOTICE
WORK ORDER
NO. 137173 M.C.S.
15-09-05

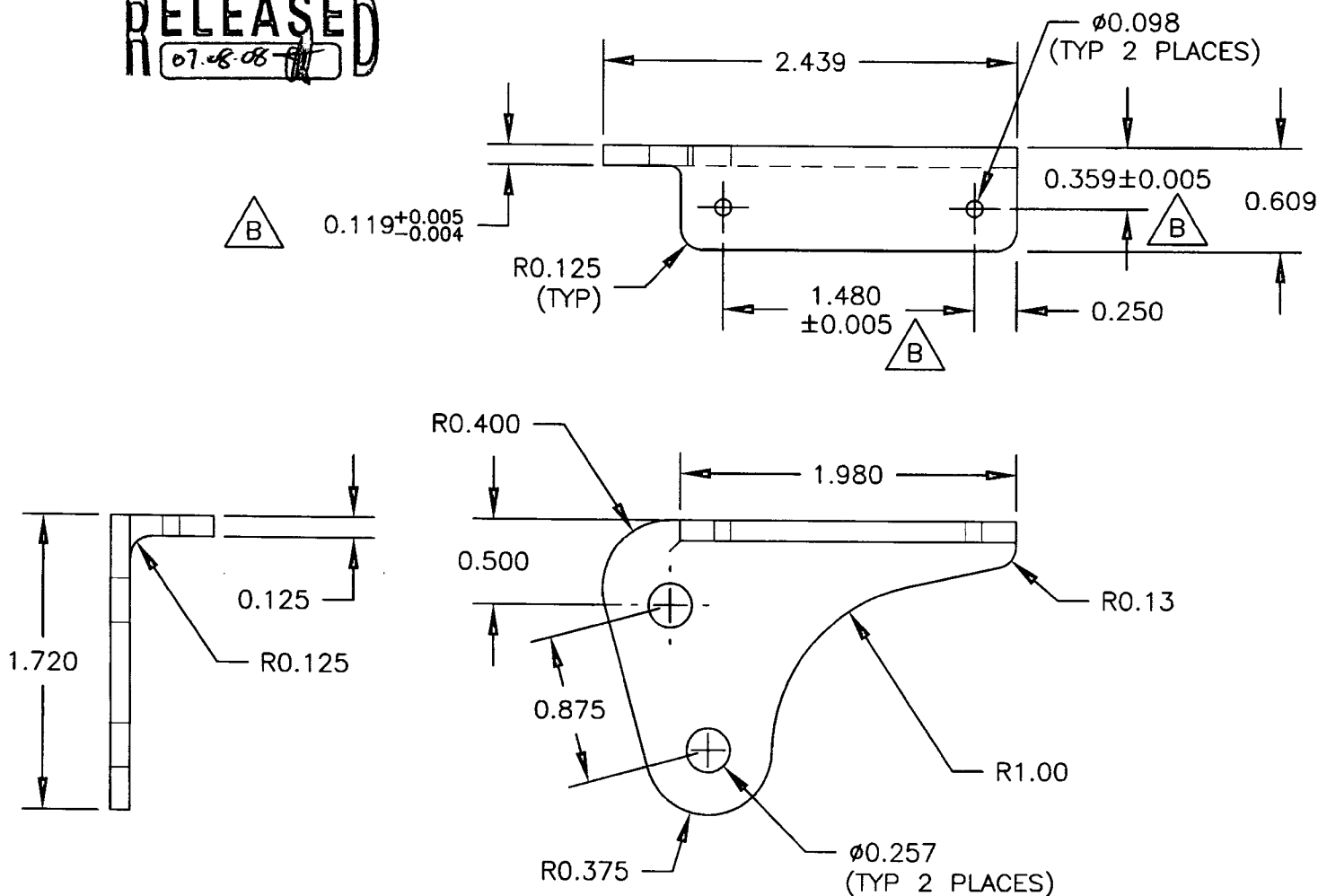
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DESIGN 90/	DRAWN BY JC	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED B	APPROVED H	DRAWING NO. D3278	REV. C SHEET 2 OF 3
DATE 07.07.24		TITLE SUPPORT ASSEMBLY	SCALE 1:1

RELEASED
07.08.08



D3278-1 SUPPORT (SHOWN)

D3278-2 SUPPORT (OPPOSITE)

- 1) MACHINE PER DWG FILE "D3278-1.SLDPRT"
- 2) MATERIAL: 6061-T6 (OR 6061-T651/T6510/T6511/T62) BAR
PER AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
PER AMS-QQ-A-200/8 (OR AMS 4160)
(REF. DART SPEC. M6061T6B)
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

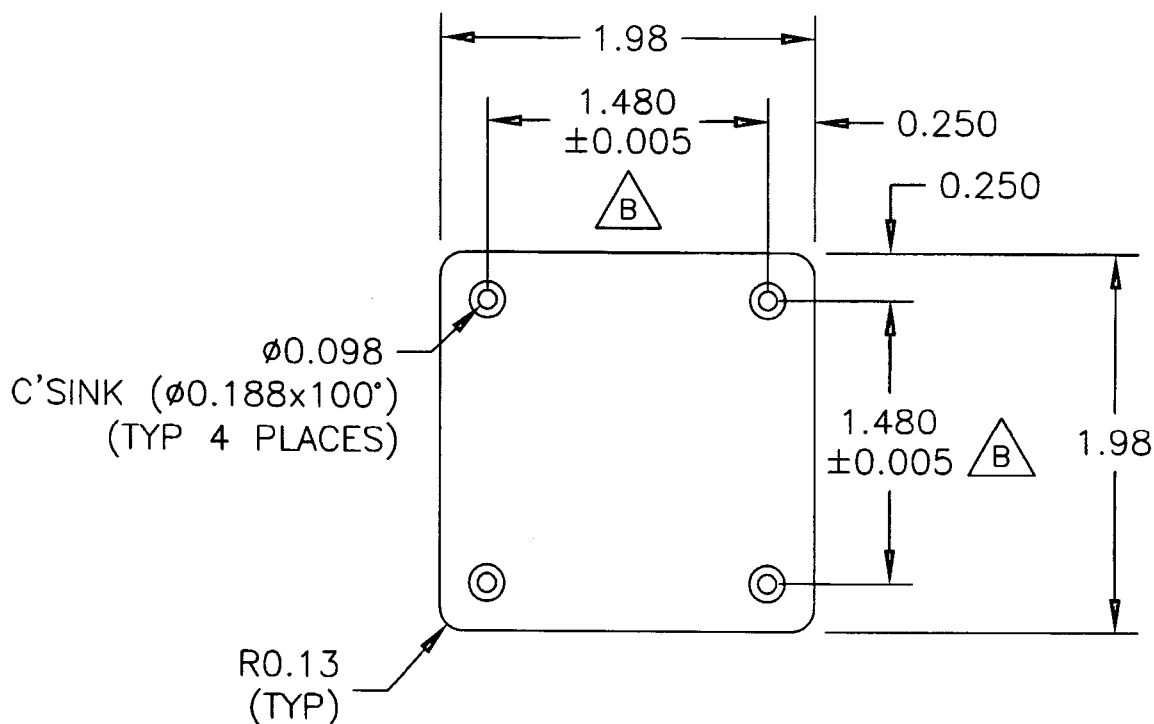
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DESIGN <i>GP</i>	DRAWN BY <i>BC</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>B</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3278	REV. C SHEET 3 OF 3
DATE 07.07.24		TITLE SUPPORT ASSEMBLY	SCALE 1:1

RELEASED
07.08.08



D3278-3 SPACER

- 1) MATERIAL: DELRIN II 150E OR ACETRON GP ACETAL
(REF. DART SPEC. M-DELRIN-B0.125x2.000) OR
DELRIN II 150E OR ACETRON GP ACETAL
(REF. DART SPEC. M-DELRIN-S.125)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

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